USDA NRCS **Natural Resources Conservation Service**
Boise, Idaho

Idaho Natural Resource Trends

How do we use the land?

Idaho had about 18.6 million acres of nonfederal rural land in 1997.

35% of it is rangeland, 30% cropland, 21% forest land, and 7% pastureland.

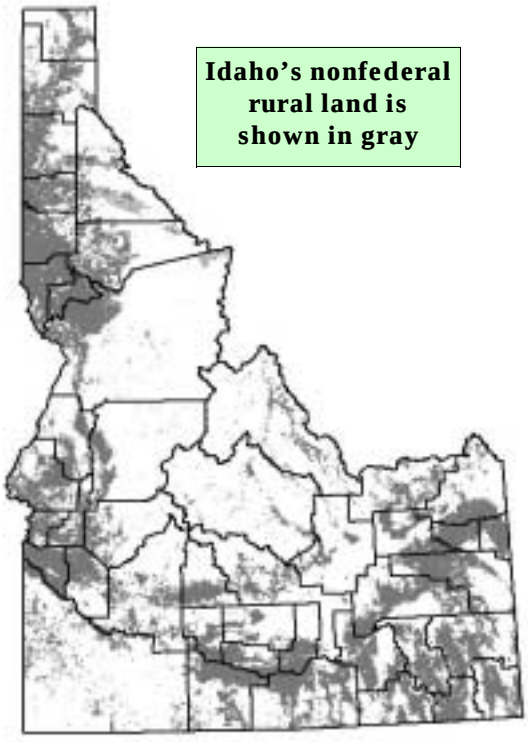
Total acres in cropland, rangeland, and forestland have declined since 1982.

Who owns the land?

About 36% of Idaho's total area is nonfederal rural land.

This land includes farms and ranches; urban, private and Indian lands; and properties of state and local government.

Data Source: Idaho 1997 National Resources Inventory (revised Dec. 2000)



Idaho's nonfederal rural land is shown in gray

Irrigated land

62% of Idaho's total cropland is irrigated.

Total irrigated acres have declined by 74,400 acres since 1982.

Where is development occurring?

Urban land increased by 91,900 acres from 1992 to 1997.

63% of the increase occurred in Ada, Bannock, Bonneville Canyon, Elmore, Kootenai, and Twin Falls Counties.

Grazing Lands

Private grazing lands total 9.4 million acres and include pastureland, rangeland, and grazed forest land.

Grazing lands make up over 50% of Idaho's nonfederal rural land.

What's the story on soil erosion?

Farmers and ranchers focused on slowing erosion on our most susceptible soils in the 1980s and early 1990s. Those efforts have paid off.

Sheet and rill erosion on cropland decreased about 35% between 1982 and 1997.

Wind erosion on cropland decreased about 18%.

Background

Idaho Natural Resource Trends

This report summarizes how Idaho's nonfederal lands are being used, the condition of natural resources, and changes in land use patterns over time.

It contains data for four points in time—1982, 1987, 1992 and 1997—that are comparable, consistent and reflect true trends.

The data source for this report is the 1997 National Resources Inventory (NRI), conducted by the Natural Resources Conservation Service.

Data for the 1997 NRI were collected from more than 6,900 locations in Idaho by NRCS field personnel, resources inventory specialists, and remote sensing data collectors. The NRI was scientifically designed and conducted and is based on recognized statistical sampling methods.

NRI data is statistically reliable for use at the national, regional, statewide, and multi-county levels.

Further information regarding the NRI and additional data summaries can be obtained from the national NRI internet site at: http://www.nhq.nrcs.usda.gov/NRI.

This site provides a link to the Idaho NRI web site and an email address for help or questions. Users may also call the NRCS NRI specialist in Boise at 208-378-5728.

Conservation Service (NRCS)

The Natural Resources Conservation Service is the lead Federal agency for conservation on private land.

The first step in providing leadership for conservation is identifying natural resource status, conditions and trends and making this information available to landowners and communities to assist in their land use decision making.

In addition to recurrent natural resources inventories, NRCS also collects large quantities of field level data in support of conservation planning activities, the Soil Survey Program, and Snow Survey and Water Supply Forecasting Program. The data is used to provide conservation assistance to farmers and ranchers in the development of conservation systems uniquely tailored to the land and their individual way of doing business.

NRCS also provides assistance to rural and urban communities to help reduce erosion, conserve and protect water resources, and solve other resource-related problems.

The information that NRCS collects about natural resources is critical for sustaining agriculture, promoting the conservation and stewardship ethic, and preserving the health of the Nation's natural resources and environment.

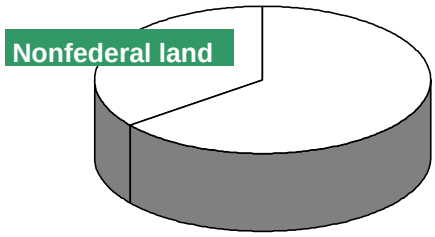
Natural Resources

Land Ownership

(acres)

Federal land	33,563,300
Water area	551,600
Urban and built-up*	754,900
Nonfederal rural land	18,617,700

*includes rural transportation



About 36% of Idaho's total land area is non-Federal rural land; 63% is Federal land

- Federal land covers about 63% of the State's total area.
- About 36% of Idaho's land is non-Federal rural land. It includes farms and ranches; urban, private and Indian lands; and properties of state and local governments.
- Idaho ranks 5th among states for the most federal land. Nevada is 2nd with 85% of the state's land; California is 3rd with 46%; and Utah is 4th with 63%. Alaska is 1st but is not included in the National NRI Summary.

How Idaho's nonfederal rural land is used

(acres)

	1982	1987	1992	1997
Rangeland	6,625,000	6,545,300	6,517,200	6,500,500
Cropland	6,390,200	6,052,200	5,600,000	5,517,300
Forest land	3,995,100	4,082,500	4,019,900	3,947,800
Pastureland	1,278,800	1,284,800	1,299,000	1,314,800
CRP land	0	448,200	823,700	784,800
Other Uses	501,600	521,000	533,200	552,500
Total nonfederal rural land	**18,790,700**	**18,934,000**	**18,793,000**	**18,617,700**

- Rural land use is constantly changing. Between 1982 and 1997, the amount of rangeland, forestland and cropland decreased. Pastureland and other uses increased.
- Much of the decrease in cropland acreage is due to the Conservation Reserve Program (CRP), which is currently taking 784,800 acres of highly erodible cropland out of production.
- The decrease in 1997 CRP is due to land coming out of CRP contracts.
- Pastureland increased in 1997 by acres coming out of CRP contracts and remaining in permanent vegetation. Estimated erosion reduction is more than 7.1 million tons per year.

Classes of land and how we use them

(acres)

The land capability classification system divides the rural landscape numerically into eight classes, providing a quick, uniform, and useful way to evaluate the potential of land for crop production. The higher a soils' class numeral, the greater its limitations and the fewer its uses. In general, Idaho farmers and ranchers use their land consistent with the land's capabilities.

Land use	Classes I-III	Class IV	Class V	Classes VI-VIII	Total
Cropland	3,890,800	1,231,000	72,300	323,200	5,517,300
Pastureland	424,700	428,300	196,400	265,400	1,314,800
Rangeland	373,700	1,185,200	129,900	4,806,900	6,495,700
Forestland	135,800	664,400	15,700	3,129,400	3,945,300
CRP land	314,700	277,700	0	192,400	784,800
Other rural land*	64,200	55,500	17,800	415,000	552,500
Total	5,203,900	3,842,100	432,100	9,132,300	18,610,400

*Includes farmsteads and other farm structures, field windbreaks, and barren land.

- Of the 97,000 acres of Class I land, 89,000 acres or 92% are being used as cropland.
- Most cropland is in Classes II and III.
- Most of the land in Classes V through VIII are used for pasture, range, forest, or other uses such as wildlife habitat. Though the land generally isn't suitable for cultivation, nearly 395,500 acres are planted to crops.

Class I soils have few limitations that restrict their use. **Class II** soils have moderate limitations that reduce the choice of plants or that require careful management. **Class III** soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture or range, woodland or wildlife.

Class VI soils have severe limitations that make them generally unsuitable for cultivation and limit their use largely to pasture, range, woodland, or wildlife. **Class VII** soils have very severe limitations that make them generally unsuitable for cultivation and limit their use largely to pasture, range, woodland or wildlife. **Class VII** soils and miscellaneous land types have limitations that preclude their use for commercial crop production and restrict their use for recreation, wildlife, water supply, or esthetic purposes.

Land use is dynamic

From 1982 to 1997, Idaho lost 860,300 acres of cultivated cropland:

- 705,400 acres were converted to the Conservation Reserve Program
- 77,100 acres were converted to urban uses
- 19,500 acres were converted to other rural land (farmsteads, feedlots, dairies, gravel pits, etc.)
- 58,200 acres were converted to Federal land, pastureland and non-cultivated cropland.

The loss of cultivated cropland tells only part of the story:

- 1,512,500 acres that were cultivated cropland in 1982 were in other uses in 1997.
- 652,300 acres that were in other land uses in 1982 were classified as cultivated cropland in 1997.

Land Use	**Converted from cultivated cropland to the following land use by 1997 (acres)**	**Converted to cultivated cropland from the following land use since 1982 (acres)**
Cropland	3,889,000	3,889,000
Pastureland	162,900	146,900
Urban built-up	77,200	100
Rural transportation	3,200	3,200
Rangeland	30,900	74,300
Forest land	1,500	1,100
Other rural land	34,100	14,600
Water and federal land	91,100	67,700
CRP land	705,400	0
Noncultivated cropland	406,300	344,400
Total	**5,401,600**	**4,541,300**

Cropland

(acres)

	1982	**1987**	**1992**	**1997**
Irrigated cropland	3,520,000	3,550,400	3,495,200	3,445,600
Non-irrigated cropland	2,870,200	2,501,800	2,104,800	2,071,700
Total cropland	**6,390,200**	**6,052,200**	**5,600,000**	**5,517,300**

- 62% of Idaho's 5,517,300 acres of cropland are irrigated; 38% is non-irrigated and receives water only by natural precipitation.

- Irrigated cropland is located primarily in the deserts along the Snake River Plain where a wide range of crops are produced under surface and sprinkler irrigation systems.

- Non-irrigated cropland is found in the Palouse and Nez Perce Prairies of northern Idaho where annual precipitation averages 20-22 inches and in the southeastern Idaho Plateaus where annual precipitation averages 15-18 inches.

Rangeland

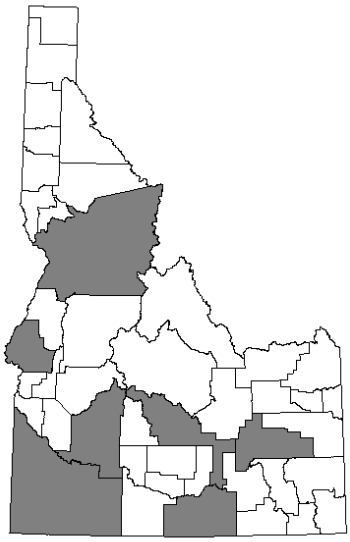
The climax plant cover on Idaho's 6,500,500 acres of nonfederal rangeland is mostly native grasses, forbs, and shrubs. This range vegetation is an important renewable resource that is used as forage for animal production and wildlife habitat.

- Average annual sheet and rill erosion on rangeland in 1997 was 0.5 ton per acre per year, the same as in 1992, 1987, and 1982.

Federal rangeland is not included in the NRI.

Where is nonfederal rangeland?

(counties with 307,500 to 821,200 acres)



County	Acres
Bingham	408,500
Blaine	312,500
Cassia	309,300
Elmore	357,500
Idaho	307,500
Owyhee	821,200
Washington	427,700

Forest land

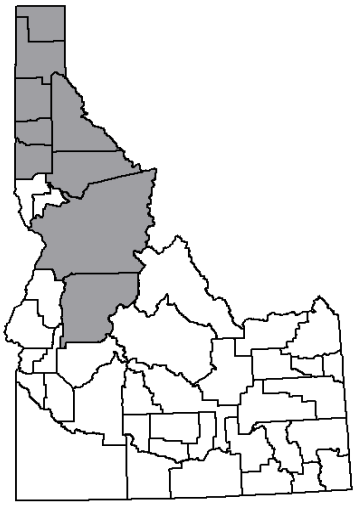
(acres)

- Idaho's 3,947,800 acres of nonfederal forestland occur in the foothills and mountains of southern and eastern Idaho and from the valley floor into the mountains of central and northern Idaho.
- About 70% of nonfederal forest land is owned by small woodlot owners and farmers; 30% is owned by private industry.
- The demand for nonfederal forestland harvests continues to increase, while net annual growth per acre remains relatively stable.

	1982	1987	1992	1997
Grazed forest land	1,679,300	1,718,800	1,725,600	1,699,200
Ungrazed forest land	2,315,800	2,363,700	2,294,300	2,248,600

Where is nonfederal forest land?

(counties with 232,700 to 674,400 acres)



County	Acres
Benewah	235,700
Bonner	509,100
Boundary	244,600
Clearwater	674,400
Idaho	234,800
Kootenai	244,900
Latah	246,400
Shoshone	387,200
Valley	232,700

Losing Soil by Water

(tons of soil on cropland/year)

Sheet erosion is the removal of a fairly uniform layer of soil by rain and/or runoff.
Rill erosion is the formation of small channels resulting from surface runoff.

	1982	1987	1992	1997
Sheet and rill erosion	27 million	22 million	16 million	15 million

- Sheet and rill erosion on Idaho cropland has decreased about 35% since 1982. Some of the soil savings came from reductions in erosion on highly erodible land and use of conservation practices such as conservation tillage and crop residue management.

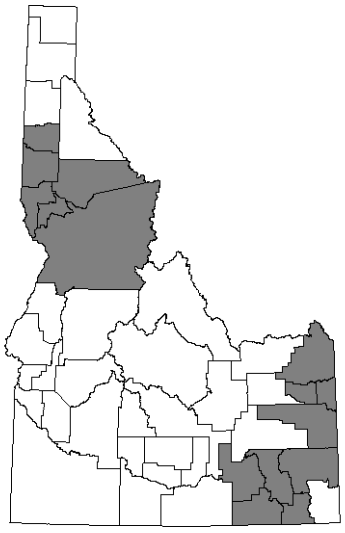
- The Conservation Reserve Program is also responsible for reducing erosion on cropland by taking environmentally sensitive cropland out of crop production and planting it to a grass cover.

- Controlling erosion not only sustains the long-term productivity of the land but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the State's waters.

- Erosion by water is not fully illustrated by sheet and rill erosion rates. Irrigation-induced erosion, caused by irrigation water running over the soil surface, is a major problem on cropland in southern Idaho. Collection of data on this problem, however, is not included in the NRI.

Counties with serious water erosion

2.8 to 10.2 tons/acre/year



Losing Soil by Wind

(tons/acre/year)

Cropland erosion by wind

1982	1987	1992	1997
3.5	4.0	4.0	3.3

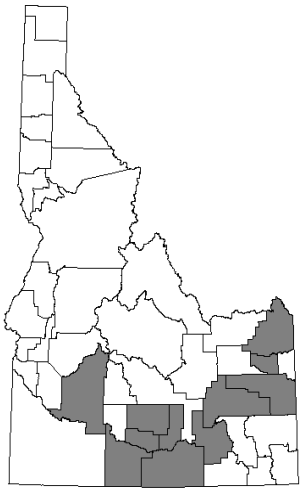
Wind erosion on cropland increased 0.5 ton per acre per year from 1982 to 1992. During this 10-year period, the acres of potatoes and sugar beets increased significantly. These crops have low residue amounts on the soil surface after harvest and during critical wind erosion periods in the spring.

- Wind erosion on cropland decreased 18% or 0.7 tons per acre per year between 1992 and 1997.

  Some of the decrease in erosion is attributed to successful implementation of 1985 and 1990 Farm Bill programs by farmers and ranchers, use of conservation tillage, crop residue management and planting grass on highly erodible land. The acres of low residue crops (potatoes and sugar beets) also decreased between 1992 and 1997.

Counties with severe wind erosion

5.1 to 10.1 tons/acre/year



Prime Farmland

(acres)

Prime farmland is rural land with the best combination of physical and chemical characteristics for producing food, feed, forage, and fiber and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and management according to acceptable farming methods.

When we lose this high quality farmland to other uses, we lose our ability to be efficient food producers.

Prime farmland by land use

Land Use	Acres
Cropland	2,816,800
CRP land	100,300
Pastureland	229,100
Rangeland	63,000
Forest land	30,900
Minor land cover	26,100
Total	**3,266,200**

- 86% of prime farmland is in cropland.

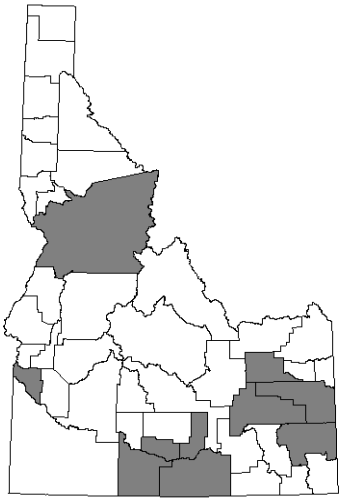
Losing prime farmland

Year	Acres
1982	3,407,000
1987	3,380,900
1992	3,329,600
1997	3,266,200

- Between 1992 and 1997, Idaho lost an average of 12,680 acres of prime farmland per year. About 5,800 of those acres were converted to urban development.
- From 1992 to 1997, we lost prime farmland to urban development at a rate 1.3 times faster than during the 10-year period 1982 to 1992.

Counties with most prime farmland

(130,300 to 306,700 acres)



County	Acres
Bingham	306,700
Bonneville	142,700
Canyon	173,100
Caribou	137,500
Cassia	265,700
Idaho	237,100
Jefferson	130,300
Jerome	147,600
Minidoka	174,700
Twin Falls	263,700

Conversion of rural land to urban uses

Urban lands grew in Idaho from an estimated 550,200 acres in 1982 to 754,900 acres in 1997. This 37% increase came primarily from the conversion of cropland, pastureland, range and forest land to urban areas and rural transportation land.

- Rapid urbanization and development leads to the fragmentation of agricultural land and the loss of prime farmland in growing areas.

- Idaho's rank is 36 compared to other states by acreage and rate of rural land developed.

Estimated annual rate of conversion
(acres)

Land use	1982-1992	1992-1997	% change
Cropland	5,630	7,240	+ 28.6%
Pastureland	2,520	3,740	+ 48.4%
Rangeland	890	2,740	+207.9%
Forestland	2,210	2,840	+ 28.5%
Total	11,250	16,560	+ 47.2%

Where is conversion occurring?

From 1992 to 1997, urban land increased by 91,900 acres; 63% of the increase occurred in the following counties:

County	Percent	Acres	Conversion rate 1992-1997 (acres/year)
Ada	26	24,200	4,480
Canyon	14	13,000	2,600
Kootenai	13	11,800	2,360
Twin Falls	3	3,100	620
Elmore	2	2,000	400
Bonneville	2	1,900	380

Conversion to farmsteads and ranch headquarters

Another reason for the loss of rural land is the conversion to farmsteads and ranch headquarters. From 1982 to 1997, an estimated 45,100 acres of rural lands were converted to farmsteads. This included an estimated 26,600 acres of cropland, 7,600 acres of pastureland, 4,200 acres of rangeland and 6,700 acres of forestland.

Conversion to permanent transportation facilities

Rural lands are also taken out of production with conversion to permanent transportation facilities such as roads and railroads. From 1982 to 1997, an estimated 12,300 acres of rural land were converted to rural transportation. This included an estimated 4,300 acres of cropland, 1,600 acres of pastureland, 3,700 acres of rangeland and 2,700 acres of forest land.

Conversion of prime farmland to urban lands

Conversion of prime farmland soils to urban lands from 1982 to 1997 totaled an estimated 70,300 acres out of the 197,000 total acres converted.

Estimated annual rate of conversion of prime soils to urban lands 1982-1992 vs. 1992-1997

(acres/year)

Land Use	1982-1992	1992-1997	% change
Cropland	3,670	3,940	7.4
Pastureland	620	1,440	132.3
Rangeland	0	0	0
Forestland	0	0	0
Total	4,290	5,380	25.4